

**SUBMISSION AGREEMENT
BETWEEN
THE NATIONAL CENTERS FOR ENVIRONMENTAL INFORMATION
AND
THE NATIONAL CENTERS FOR ENVIRONMENTAL INFORMATION
FOR INTERNATIONAL COMPREHENSIVE OCEAN-ATMOSPHERE DATA SET
(ICOADS) R3.0 NETCDF 1662-2017**

2017-04-18

Introduction

This document represents the agreement that the National Centers for Environmental Information (NODC) (the "Provider") and the National Centers for Environmental Information (NCEI) (the "Archive") have reached for submitting the Provider's data, International Comprehensive Ocean-Atmosphere Data Set (ICOADS) R3.0 NetCDF 1662-2017, to the Archive for long-term preservation. It represents a joint effort between the Provider and the Archive to accurately document the agreement and the expectations between the two groups.

In order to ensure that the quality and integrity of the archived data is not compromised, the Provider and the Archive agree to maintain this agreement with accurate and up-to-date information through the life of the data submission.

Add comments as needed

Contacts

Persons included in all communications regarding the data submission.

Provider Contacts

Point of Contact, Data submitter

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Archive Contacts

Data Acquisition, Data content manager

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Data Overview

The data need to be archived is the newly-created NetCDF version of the International Comprehensive Ocean-Atmosphere Data Set (ICOADS) R3.0 as part of the NCEI Big Earth Data Initiative (BEDI) project. The International Comprehensive Ocean-Atmosphere Data Set (ICOADS) is a global ocean marine meteorological and surface ocean dataset. It is formed by merging many national and international data sources that contain measurements and visual observations from ships (merchant, navy, research), moored and drifting buoys, coastal stations, and other marine

platforms. Each report contains individual observations of meteorological and oceanographic variables, such as sea surface and air temperatures, wind, pressure, humidity, and cloudiness. The coverage is global and sampling density varies depending on date and geographic position relative to shipping routes and ocean observing systems. NCEI has converted the dataset from raw IMMA1 format to NetCDF4 format to put the data on the THREDDS server and geoportal. Data variables include Air Temperature, Cloud Amount/Frequency, Cloud Height, Cloud Types, Dew Point Temperature, Humidity, Ice Edges, Precipitation Amount, Pressure Tendency, Sea Ice Concentration, Sea Level Pressure, Sea Surface Temperature, Surface Winds, Swells, Visibility, Wave Frequency, Wave Height, Wave Speed/Direction etc as well as associated metadata such as platform information, data sources, quality control flags etc. The temporal resolution varies from data to data with the highest resolution of 1 hour. It has global spatial coverage and temporal coverage from 1662 to present.

Applicable and Reference Documents

Documents applicable to or referenced from this agreement.

None

Submission Scope

Active Submission Period

2017-04-18 - 2090

Data Types

Below is a summary of the data sizing and submission schedule by data type group. Enter information on at least one data type.

Data Type Name	Data Sizing	Submission Schedule
netCDF 4	28.1 GB less than 100 MB/file one file per month	10th of the month

Reviews and Testing

reviewed and tested by ICOADS team, John Relph and Data officer Tom Ryan,

Providing System

Identification of the system providing the data to NCEI.

System Name: ammonite
System Owner: DOC/NOAA/NESDIS/NCEI > National Centers for Environmental Information, NESDIS, NOAA, U.S. Department of Commerce
Physical Location: Silver Spring
Additional Information: Add comments as needed on applicable data types, etc.

Transfer Interface

direct copy

Submission File Inventory

Information on each submitted file type from the Provider. Information on multiple file types can be added below.

File Type Name: netCDF

File Name Pattern:

ICOADS_R3.0.X_YYYY-MM.nc

File Name Field Definitions:

R3.0.X: release version number. R3.0.0 is for files from 1662-2014 and R3.0.1 for files from 2015 to present.

YYYY: year

MM: month

nc - netCDF4 format

Example File Name:

ICOADS_R3.0.1_2017-03.nc

File Format: netCDF-4

File Compression: internal compression

File Size Average: 50MB

File Size Range: 100KB to 100MB

File Count (Rate): one file per month

Data Volume (Rate): less than 100 MB/month

Submission Schedule: submitted between 5 and 15 of each month

Additional Information: Add comments as needed for this file type

Descriptive Information Attributes:

None: date/time fields are usually used as descriptive attributes for this file.

Submission Manifest

A submission manifest file with a 32-character MD5 checksum value is required for each submitted file in order to ensure the integrity of the submitted data.

File Content Specification:

Below is an example of list in /nodc/projects/tsg/data/SHA256/1660s.sha256, the manifest for data collected in 1660s:

```
1fa4dbf25946d7b241c382524c6eceda8defda0db4d6a25a829a53424e85551c 1660s/ICOADS_R3.0.0_1662-10.nc
76992a003c23ba2e5eeb5bb6809ac7ab702120092132cf6a1ade0f6221b8b699 1660s/ICOADS_R3.0.0_1662-11.nc
2f3de3e59655bf7de21e0a5168c4bc7971ffb8dfb70bbdc9b86edae2f3d0bef2 1660s/ICOADS_R3.0.0_1662-12.nc
aad983795d147162182acd40a1ed6fd78fcd469844bf42213cd454971e5afb0 1660s/ICOADS_R3.0.0_1663-01.nc
4a8c21305ad760bc2d01f6691e3460b66b7ad80d61200508547adaa9e3fad4d3 1660s/ICOADS_R3.0.0_1663-02.nc
...
```

File Transmission:

one file per month

direct copy from NCEI-MD Linux to NCEI-MD AMS

File Name Pattern:

each decade has one manifest file. named as YYYYs.sha256. YYYY is the beginning of the decade, for example 1990, 2000 etc.

File Name Definitions:

1fa4dbf25946d7b241c382524c6eceda8defda0db4d6a25a829a53424e85551c 1660s/ICOADS_R3.0.0_1662-10.nc
 76992a003c23ba2e5eeb5bb6809ac7ab702120092132cf6a1ade0f6221b8b699 1660s/ICOADS_R3.0.0_1662-11.nc
 2f3de3e59655bf7de21e0a5168c4bc7971ffb8dfb70bbdc9b86edae2f3d0bef2 1660s/ICOADS_R3.0.0_1662-12.nc
 aad983795d147162182acd40a1ed6fd78fcfd469844bf42213cd454971e5afb0 1660s/ICOADS_R3.0.0_1663-01.nc

Example File Name:

1990s.sha256

Archive Ingest

Ingest processing steps at the Archive and communication with the Provider.

Receipt Verification:

The Archive will use the provided file name and SHA-256 checksum value to verify the integrity of a delivered file.

Error Reconciliation:

The Archive will report any problems or errors with file integrity, file name, checksum validation, or other errors that inhibit the data ingest and archive to the Provider by email. A new corresponding submission manifest will be required for files re-submitted by the Provider.

Receipt Confirmation:

The Archive will provide an inventory of the data ingested once it is completed or as requested by the Provider.

Quality Assurance:

No quality checks on the submitted data are planned.

Archive File Packaging:

organized by decades

Archive Storage

Archive attributes of each archived file type.

Archive File Type Name: netCDF	
Archive File Attributes/IDs:	
Attribute/ID Type	Value
Archive File ID	file name as indicated by the ID attribute in each netCDF file

Archive Updates

monthly

Retention Schedule

The data will be retained in the Archive for long-term preservation in accordance with NOAA data management standards. Information on data usage and archive value may be used for making decisions on continuing the duration of the archive.

(Notional) Disposition: Unknown/TBD

Constraints

No constraints apply or will apply to the archived data.

User Community

ICOADS is the most widely-used freely available collection of surface marine observations, with over 455 million individual marine reports spanning 1662-present-each containing the observations and metadata reported from a given ship, buoy, coastal platform, or oceanographic instrument, providing data for the construction of gridded analyses of sea surface temperature, estimates of air-sea interaction and other meteorological variables. ICOADS observations are assimilated into all major atmospheric, oceanic and coupled reanalyses, further widening its impact. R3.0 therefore includes changes designed to enable effective exchange of information describing data quality between ICOADS, reanalysis centres, data set developers, scientists and the public.

User Documentation and Metadata

<http://icoads.noaa.gov/doc.html>

Representation Information Items

For data to be useful to users, present and future, its format specification and characteristics must be documented and preserved with the data. Representation Information provides users with syntax (structure) and/or semantics (meaning) to decode the encoded data.

None

Preservation Descriptive Information Items

Preservation Descriptive Information items contain context, provenance, and/or quality information for the data.

None

Access and Dissemination

The Archive will provide standard access services for the data and supporting information to the designated user community, for example THREDDS, FTP, HTTP and OPenDap.

Additional Terms

None.